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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,019	01/16/2004	Lih-Chung Kuo	IBMS.070PA(0511)	8505
62627	7590	07/27/2006	EXAMINER	
DAVID W. LYNCH CHAMBLISS, BAHNER & STOPHEL 1000 TALLAN SQUARE-S TWO UNION SQUARE CHATTANOOGA, TN 37402			FRANKLIN, RICHARD B	
			ART UNIT	PAPER NUMBER
			2181	

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/760,019	KUO ET AL.	
	Examiner	Art Unit	
	Richard Franklin	2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Fritz Fleming
FRITZ FLEMING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100
7/23/2006

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1 – 29 have been examined.

Response to Arguments

2. Applicant's arguments with respect to claims 1 – 29 have been considered but are moot in view of the new ground(s) of rejection. Claims 1 – 29 are rejected in view of newly found reference US Patent No. 6,101,568, and previously presented references US Patent No 6,975,593 and US Patent No. 6,496,890.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 9, 11, 14 – 23, 25, and 27 – 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,101,568 (hereinafter Richardson) in view of US Patent No. 6,975,593 (hereinafter Collier).

As per claims 1, 11, and 27 – 29, Richardson teaches gathering writes in a buffer before transmitting a burst of writes over an external bus (Richardson; Col 5 Lines 59 – 65); monitoring the buffer to determine a number of writes in the buffer and whether the number of writes in the buffer exceeds a predetermined threshold (Richardson; Col 3 Line 65 – Col 4 Line 6, Col 5 Line 65 – Col 7 Line 1, Col 7 Lines 19 – 21); and

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identifying when the number of writes in the buffer exceeds the predetermined threshold (Richardson; Col 7 Lines 43 – 47).

Richardson does not teach providing control over a rate of a number of writes provided to the buffer in response to the monitored number of writes in the buffer and the predetermined threshold.

However, Collier teaches providing control (Collier; Col 1 Lines 42 – 63) over a rate of a number of writes provided to the buffer in response to the monitored number of writes in the buffer and the predetermined threshold (Collier Col 1 Line 56 – Col 2 Line 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Richardson to include rate control because doing so allows for ensuring the receiving device can handle all of the incoming data (Collier; Col 1 Lines 13 – 19).

As per claim 2, Collier also teaches slowing writes to the buffer (Collier; Col 2 Lines 5 – 13).

As per claim 3, Richardson also teaches wherein gathering writes in a buffer before transmitting a burst of writes over an external bus further comprises transmitting a burst of writes over a bus (Richardson; Figure 5 [Read/Write Requests]).

As per claims 4, 15, and 22 – 23, Collier also teaches initiating error recovery (Collier; Col 4 Lines 39 – 59).

As per claims 5 and 16 – 18, Richardson also teaches an arbitration signal for controlling access to the external bus in response to the comparison of the writes in the buffer to the predetermined threshold (Richardson; Col 7 Lines 43 – 47 [ready flags]).

As per claims 6 – 7 and 19 – 21, Collier also teaches providing a vector to a register and scanning the register (Collier; Figure 2, Col 3 Line 62 – Col 4 Line 17) for the vector to determine when to slow writes to the buffer (Collier; Col 2 Lines 5 – 13).

As per claims 8 and 25, Richardson also teaches clearing the buffer when the buffer exceeds a predetermined threshold (Richardson; Col 6 Lines 23 – 30).

As per claim 9, Collier also teaches a timeout signal for indicating when a transaction is not cleared from the buffer within a predetermined mount of time (Collier; Col 2 Lines 45 – 67).

As per claim 12, Richardson also teaches an external interface (Richardson; Figure 2 Item 32) coupled to the buffer (Richardson; Figure 2 Item 22), the external interface linking the buffer to the external bus (Richardson; Figure 5 Item 54).

As per claim 13, Richardson in combination with Collier obviously teach wherein the external bus comprises a PCI-X bus because such busses are well known in the art as a high speed bus used in computer systems to connect peripheral devices.

As per claim 14, Richardson also teaches a processor interface (Richardson; Figure 2 Item 20) coupled to the buffer (Richardson; Figure 2 Item 22).

As per claim 24, Richardson also teaches wherein the buffer provides a pointer to control the movement of writes from the processor to the buffer (Richardson; Col 7 Lines 1 – 10).

4. Claims 10 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,101,568 (hereinafter Richardson) in view of US Patent No. 6,975,593 (hereinafter Collier) and further in view of US Patent No. 6,496,890 (hereinafter Azevedo).

As per claims 10 and 26, Richardson in combination with Collier teaches managing dataflow through a processing system (see rejection of claims 1 and 11 above).

Richardson in combination with Collier does not teach determining whether an external interface is hung and clearing the buffer and external bus transaction when an external interface is hung.

However, Azevedo teaches determining whether an external interface is hung and clearing the buffer and external bus transaction when an external interface is hung (Azevedo; Figure 3, Col 2 Line 60 – Col 3 Line 45).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Richardson in combination with Collier because determining whether an external interface is hung minimizes the amount of time that data from a particular source must wait to be read or write (Azevedo; Col 4 Lines 29 – 44).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Franklin whose telephone number is (571) 272-0669. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fritz Fleming can be reached on (571) 272-4145. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Richard Franklin
Patent Examiner
Art Unit 2181


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7/23/2006